in whole or in part, by the fact that we factored $U_{cr}.V$ by measured weight on the day of study whereas Sutphen factored by birth weight; this could make a substantial difference, particularly in the second postnatal week. Modi and Hutton do not state which weight was used in their series.

The 'meta-analysis' presented by Modi and Hutton (their fig 2) is interesting, and does suggest that across the much greater range of postconceptional age represented in this analysis $U_{cr}.V.kg^{-1}$ increases to an extent that might affect clinical calculations for standardising the excretion rate of other substances (to take one practical application of these studies). I continue to believe, however, that in human infants born between 28 and 40 weeks' gestation, in the newborn period, any change in $U_{cr}.V.kg^{-1}$ is so small as to be insignificant for clinical purposes.

I note that Coulthard *et al*[2] reach a conclusion similar to ours, based on their own work; I apologise to them for failing to cite their study,[3] of which we were unaware at the time our manuscript was submitted to the *Archives*.

References

[1] Sutphen JL. Anthropometric determinants of creatinine excretion in preterm infants. *Pediatrics* 1982;**69**:719–23.
[2] Coulthard MG, Hey EN, Ruddick V. Urinary creatinine excretion in the newborn. *Arch Dis Child* 1988;**63**:1111–2.
[3] Coulthard MG, Hey EN, Ruddick V. Creatinine and urea clearances compared to inulin clearance in preterm and mature babies. *Early Hum Dev* 1985;**11**:11–9.

Rubella immunisation

Sir,

The article by Dr Hodes highlights the problems of uptake rates of rubella immunisation.[1] Her scheme of 'catch-up' seems admirable, but it does seem to miss an opportunity of identifying those previously immunised girls who have not seroconverted.

In some of the family planning clinics where I work, we routinely serotest all women who have not previously had such a test, regardless of immunisation history. It is true that memory for an immunisation given perhaps 10 or more years ago may lead to some of the negatives which we find, but equally there is a recognised failure rate of the immunisation, which is quoted as between 0·5% (P Morgan-Capner, personal communication) and 5%.[2] Some of the failures may be due to faulty storage of vaccine, use of Mediswabs where the skin has not been allowed to dry before injection, and the differing practices of reporting low concentrations of antibody (probably enough to protect the fetus).

Whatever the reason for non-conversion, there must be women walking around believing they are protected because of a history of vaccination who in fact may need a further injection.[3] I seem to turn up one or two a month at family planning clinics in this situation, and we routinely serotest immunised women six weeks after injection. It would perhaps be a more beneficial approach to immunise without serotesting first, and then follow up with measurement of antibody concentrations to check the desired effect has been achieved.

Women in our clinics are given cards providing evidence of immunity and not of immunisation. In this critical area of health, perhaps one could make a special case for the work entailed.

References

[1] Hodes DT. Rubella immunisation for girls over 14 years. *Arch Dis Child* 1988;**63**:983–5.
[2] Department of Health and Social Security. *Immunisation against infectious disease*. London: HMSO, 1988.
[3] Zealley H. Rubella screening and immunization of schoolgirls: a long term evaluation. *British Journal of Preventive and Social Medicine* 1974;**28**:54–9.

A ELLIMAN
Croydon Health Authority

A gripe about gripe water

Sir,

Despite lack of evidence that gripe water or any of its ingredients help infantile colic it is prescribed, and many thousands of bottles continue to be consumed each year in Britain.[1]

All gripe waters contain large amounts of sugar, which is harmful to erupting teeth. What concerns us is that certain preparations fail to list sugar on the label, giving the false impression that they are sugar free. Furthermore, all preparations have a widely varying alcohol content, yet alcohol is not listed on the label of some. It is the alcohol that is believed by some physicians to be the active ingredient.[2] When we approached the pharmaceutical industry about these matters we were told that it was only necessary to list 'active ingredients'.

We feel that it is quite wrong that the sugar and alcohol content of these preparations is not always listed on the label and would support the proposal by the Department of Health that regulations should require the disclosure of all ingredients, whether intended as active or not.[3] Since William Woodward first formulated gripe water in 1851 it has always been regarded as harmless—leading to its wide use as a dummy (pacifier) sweetener.[4] In the interest of preventive dentistry, is the time now not right for the removal of sugar and replacement with an artificial sweetener?

References

[1] Blumenthal I. *Your child's health*. London: Faber and Faber, 1987.
[2] Illingworth RS. Infantile colic revisited. *Arch Dis Child* 1985; **60**:981–5.

[3] Anonymous. Inactive ingredients in medicines. *Lancet* 1988;i: 1143–4.
[4] Levin S. Gripe water. *S Afr Med J* 1968;**42**:753–7.

I BLUMENTHAL *and* D FENTON
Oldham and District General Hospital,
Rochdale Road,
Oldham OL1 2JH

'. . .officiously to keep alive'

Sir,

May I congratulate Dr Walker and Professor Campbell on their excellent contributions, with most of which I wholeheartedly agree.[1 2] I would, however, like to comment on two things said by Professor Campbell. Firstly, his attitude towards the abortus that refuses to die. I am unhappy with a blanket statement that we should resist all pressures to resuscitate such neonates. Each case must be assessed on its merits. The fact that the parents do not want the baby is irrelevant. I have certainly been involved in cases where a genuine error of gestational age assessment has been made with the result that a near 1000 g baby has been produced. The odds are in favour of such a baby being normal and adoptable, and we should not deny him that chance.

Furthermore, if an obstetrician is man enough to admit a mistake and ask a neonatologist's help, we should give it, and I believe that that means providing all the components of standard neonatal care. If the neonate is 'fetal', and weighs a lot less than any previous survivor in that neonatal unit, then of course it is correct not to resuscitate it, but it should be admitted to the neonatal unit, and kept warm and comfortable. Apart from anything else, this is the only way both members of the perinatal team can be protected from the unpleasant activities of what Dr Walker neatly calls 'clandestine groups'.

Secondly, and much more important, I am perpetually irritated by people who say we have to practice within economic constraints. Who says we have to? For the money required to establish satisfactory standards in neonatal care resources are *not* limited in real terms, only by dint of government control. The United Kingdom spends a ludicrously small 5·8–6·0% of its national product on health care,[3] and an increase of 2% to bring us in line with say Switzerland or Australia (and incidentally still well below Sweden and France) would give us at least an extra 5 billion pounds to spend. Neonatal paediatricians would settle for a mere 1% of this, which is well above that which was asked for after the Short report.[4] When and if we have spent all this, opinion polls show that the electorate are prepared for extra taxation to cover health care.[5] Only when this option is exhausted, if indeed it ever can be exhausted, should we begin to admit that resources are limited. Until then paediatricians should continue to make clear and well documented demands for more funds to provide an acceptable standard of care for our patients, and stop creeping around toeing the party line.

References

[1] Walker CHM. '. . .officiously to keep alive'. *Arch Dis Child* 1988;**63**:560–4.
[2] Campbell AGM. Commentary. *Arch Dis Child* 1988;**63**:565–6.
[3] Maynard A. Logic in medicine: an economic perspective. *Br Med J* 1987;**295**:1537–41.
[4] Social Services Committee. *Second report from the social services committee: perinatal and neonatal mortality.* London: House of Commons, 1980. (Short report.)
[5] Klein R. Financing health care: the three options. *Br Med J* 1988;**296**:734–6.

N R C ROBERTON
Riyadh Armed Forces Hospital,
PO Box 7897,
Riyadh 11159,
Kingdom of Saudi Arabia

Intestinal permeability tests and integrity of the small intestinal mucosa

Sir,

We read with interest the article by Nathavitharana *et al.*[1] These workers have studied lactulose and mannitol intestinal permeability in 43 children with various degrees of intestinal mucosal damage, and compared the results with a control group of 53 children with histologically normal jejunal biopsy specimens. They showed that urinary mannitol:lactulose ratio was a sensitive test only for the detection of severe villous atrophy. Lesser degrees of mucosal damage could not be detected by this test.

We have developed and validated a sugar solution test in normal children and then used it to determine gut damage from chemotherapy in children with cancer. The sugar solution contains lactulose 5 g, mannitol 5 g, and 3·0-methyl-D-glucose 2 g, made up to 100 ml with water, which gives a measured osmolality of 696 mmol/kg. The dose given is 80 ml/m^2. The addition of 3·0 methyl- D-glucose to the standard intestinal permeability test also allows the measurement of active transport and may increase the sensitivity of the test in the detection of mucosal abnormalities. We have recently reported the preliminary results, which showed the test allows quantification of severity and timing of gut damage after chemotherapy.[2] The sugars are accurately assayed by gas-liquid chromatography, the test is easy to perform and was well tolerated by normal children and children with cancer.

The osmolality of the test solution used by Nathavitharana and colleagues was 274 mmol/kg and differs from ours.

The Birmingham group recognised that the use of a more hypertonic solution might have improved the discrimination between damaged and normal mucosa.[3] They suggested, however, that there was potential risk of inducing osmotic diarrhoea associated with the ingestion of hyperosmolar solutions in children. Our study has shown that children can tolerate relatively hyperosmolar oral solutions. Out of 49 normal children who performed the test, mild nausea was observed in two occasions and the passage of one loose stool was reported in two children.